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Growth model transitions in emerging countries: institutional reshuffling in capitalism and the State in Brazil

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Introduction

Several efforts in/about Latin America seek to redefine the field of comparative capitalism (CC) to account for diverse trajectories of emerging economies and refine its theorization beyond country-level idiosyncrasies: Hierarchical Market Economy (Schneider 2013), State-permeated Market Economy (Nolke, Brink, May and Claar 2019); and state-led (Bizberg 2014; Gaitán and Boschi 2015) and incorporation of the growth model approach into CC (Schedelik, Nölke, Mertens and May 2019). Complementary, this paper suggests that capitalism may change by refashioning institutional complementarities through a preliminary exploration of conditions of growth regime transition in Brazil.

Over the past decades, Brazil developed through successive growth models: import-substitution industrialization in the 1970s (followed by a lost decade), neo-liberal market opening and, privatization in the 1990s and a short-lived consumption-driven and commodity boom financed in the 2000s. After the 2008 financial crisis, a delusional brief pump-priming led to a public deficit explosion and investment stagnation, throwing the economy into a tailspin of recession and stagnation. Yet, economic crisis can spur transitions that provide a window into the transformation of capitalist systems. And the decline of manufacturing and the impact of the corruption scandals on business groups structure may assist in the transformation of Brazilian capitalism.

As the efficiency of institutional arrangements and their complementarities has faltered, the productivity gap grew, and growth rates plummeted. With innovation and global value chains as drivers of the global economy, there is necessary room for new

economic actors and institutional arrangements to emerge, changing relationships among business, labor, and the state. The paper considers institutional changes of a potential transition to a new growth regime in Brazil, stemming from sustainability-oriented infrastructural and knowledge-based energy and natural resource investments in a global value chain integration (Thelen 2019; Hall 2018; Durazzi 2018). New alliances within business and labor organizations may produce new complementarities and, ultimately, an institutional reshuffling in capitalism and the state.

Growth models and VoC

By delving into the reasons why the VoC approach has lost its steam, Hay (2019) claims that we should search for parsimonious accounts of disequilibrium instead of applying parsimony for equilibrium and stability. This view seems to fit well into the analysis of the state of capitalism in Latin American countries. He further calls attention to 'dystopic types' where institutional complementarities become 'dysfunctional,' and path-dependence is more of a source of instability than its opposite.

For example, a parsimonious account of disequilibrium is present in the account of Baccaro and Benassi (2017) of the liberalization of the German economy in order to meet increasing competition in its quality production. To the extent that quality production exports become more price-sensitive due to the rapid catching up from countries like China and other East Asian countries, there emerges a trade-off between reducing domestic costs or raising consumption levels with higher wages.

Further, Amable (Various, 2019) reminds us that institutions are the outcome of a social conflict whose terms they define and contribute to regulate and normalize. In the same vein, a growth regime is instead characterized by conflicts vested or open and the contradictions that inhabit it. He further reminds that, within a given institutional structure, such conflicts cannot be eliminated, but partially neutralized. Different growth regimes entail diverse political coalitions or social blocs (Amable, 2017). More than electoral behavior *per se*, it is the political influence from organized interests that counts on the electoral agenda from political parties. Economic and political elites are bound to shape the growth model rather than the electorate.

According to Regan (Various, 2019), after the 2008 crisis, a comparative political economy has shed much more emphasis on the politics of socio-economic change and conflict. Thus, the recent literature on VoC has emphasized the combination of VoC and

growth regimes. The emergent growth regimes perspective draws on unorthodox approaches to macroeconomics, such as the Kaleckian (Behringer and Treek, 2019).

Behringer and Treek (2019) stress that the Kaleckian approach places income distribution at the center. The dynamics of the conflict between wage growth and profit growth are crucial in this approach and are in tune with the politics of the socio-economic conflict. For Kalecki, the volume of profits depends on the level of investment, and the share of profits depends on the degree of monopoly (Sawyer, 2018). The latter is the case in highly concentrated economies with a more prominent share of large business groups in the economic structure. Once the level of investment depends on bank credit, the institutional features of the financial system are relevant. Since the formation of large domestic private banks in Brazil, such banks have focused on short-term loans and, more recently, corporate financial operations with private equities. This constitutes a shortcoming to provide bank credit to investment, a shortcoming hitherto partially counterbalanced by the public banks.

Further, in the institutional approach is imperative to grasp the patterns of income distribution and how income distribution and institutions combine to produce distinct growth models (Behringer and Treek, 2019). Besides, income and profits distribution, the authors also consider the distribution of personal income, which is particularly relevant in the era of financialization.

Hope and Soskice (2016) claim that there is synergy between consumption-led and export-led models, with the former receiving net inflows of goods and capital from the rest of the world and with the latter being the current account surplus countries. In the case of Brazil, taking into account the last two decades, there was a combination of both export-led and consumption-led. However, export-led was commodity-based and consumption-led, driven by higher demand from income increase in the lower classes due to social policies and real growth of the minimum wage.

The role of the State

The liberalization process follows different pathways in different countries, depending on the inherited institutional legacies (Baccaro and Howell, 2017). The Brazilian pathway appears to be an intricate web of different processes. On the one hand, inheriting a very closed economy from the import-substitution period, the more systematic liberalization started with opening the markets, although within certain limits,

to import goods and with the privatization of state-owned companies, most created during the military dictatorship period (1964-1985). However, differently from other Latin American countries' industrialization such as Mexico and Argentina, Brazil's liberalization was far more restricted and preserved key institutions and state-owned companies -*Eletrobrás, Petrobrás,* as well as public banks *BNDES, Caixa Econômica Federal* and *Banco do Brasil*.

The continuity of the state structure from the developmental era into the neo-liberal one from the mid-1990s facilitated the renewed attempt to construct a neo-developmentalist strategy during Lula and Dilma governments. The state was then crucial to combine a mix of an endogenous consumption-led growth model with an exogenous commodity export-led trade strategy. The state also sought through an active foreign trade policy new markets for Brazilian commodities in Africa and Asian countries, although in the end, China was the main demand driver of Brazilian commodities. There was also a continuation in the expansion of public credit to finance agricultural production, even when considering a general trend towards growing importance from private credit.

On the demand side, social spending rose dramatically between 2003 and 2014. The minimum wage set by the government registered real growth rates during the period. Since the vast majority of the Brazilian labor force earns between one and two minimum wages, this had a direct impact on the rise of consumption levels. Baccaro and Pontusson (2016) remind us that poorer individuals (households) consume more of the income than more affluent individuals so that personal distribution of income matters to the macroeconomic discussion from growth.

Higher domestic consumption was decisive to balance the unfavorable macroeconomic conditions - overvalued currency and high-interest rates - detrimental to the growth of the manufacturing industry. In the latter part of the period, as consumption-led growth reached its ceiling and the 2008 financial crisis hit, to reduce the impact of competition from imported goods, the government together with business representatives from manufacturing sectors pursued on an aggressive tax exemption policy and generous financing from public banks, especially the BNDES, with much lower interest rates and longer terms of payment.

However, large political instability and the breakdown of the presidential coalition sustaining the government (Schneider, 2016) ensued the exhaustion of the makeshift model with growing public debt, the end of the commodity boom, and a stagnant economy.

Since then, from the impeachment of President Dilma Rousseff in April 2015, it has been followed by a second wave of liberalization, which combines a staggered privatization agenda, substantial deregulation of industrial relations, and a reduction in social spending growth and scope expansion.

As Howell (2019) points out, the liberalization process is always part of a government or even state strategy. A new coalition underpins this second wave of liberalization, made up of some of the usual suspects present in the former: financial elites, the large business groups – increasingly focused on services, and the large agro-exporters. However, differently from the previous coalition, there is an absence of lower-class representatives, social movements and trade unions, as well as an acquiescent industrial manufacturing elite.

Moreover, there have been significant changes in the governance structure with the elimination of state agencies responsible for social policies and labor policies - *Ministério do Trabalho e Emprego*, and the changes in the guidelines and orientation of the *Ministério do Desenvolvimento Social* and the *Ministério do Desenvolvimento Agrário*. The neoliberal tenet of the state as a broad regulator to enable optimal conditions for the business environment echoes the distant Argentinian and Chilean neoliberal eras in the 1990s and the 1980s. The rationale is that as the new institutional conditions come into place, business and market will set the pace for a new investment phase, economic growth will happen, and prices will adjust. This new wave of liberalization is not more radical than the previous one, but also much more contested. Its coalition tends to be more unstable than the previous one with severe problems of legitimation.

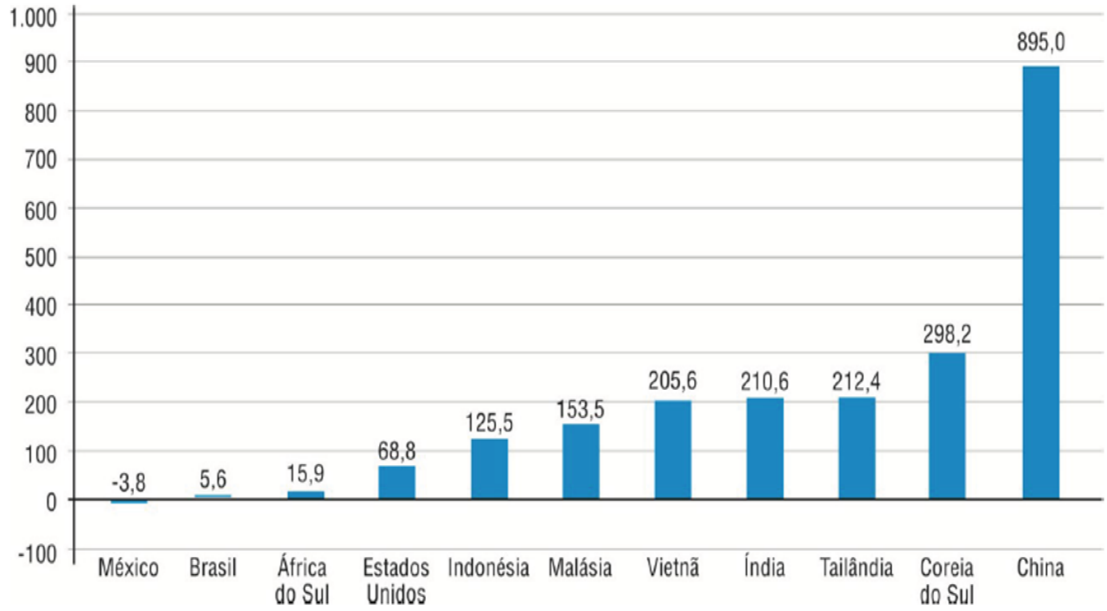
Path Dependent Institutions

With meager productivity growth, the Brazilian GDP per capita is now a little more than one-fourth of the American one, and it was equivalent to almost 40%[1] in 1980. Brazil is less competitive and less productive than in other emerging markets. A McKinsey study illustrates well how Brazil underperformed other countries in productivity terms between 1990 and 2018. In these almost three decades, labor

[1] In this period, the GDP per capita of Chile went to 41.5% from 27.4% of the American; that of China rose to 28.9% from 2.5%, and of South Korea, to 66% from 17.5%. The figures are according to purchasing power parity, at 2011 prices, based on International Monetary Fund estimates. "Brazil loses the race of the GDP per capita," Sergio Lamucci. Valor International.

productivity grew only 1.3% a year in Brazil, behind Chile's 3%, India's 5%, and China's 8.8% (**Figure 1**).

Figure 1 – Labor productivity growth between 1980 and 2018 in selected countries.



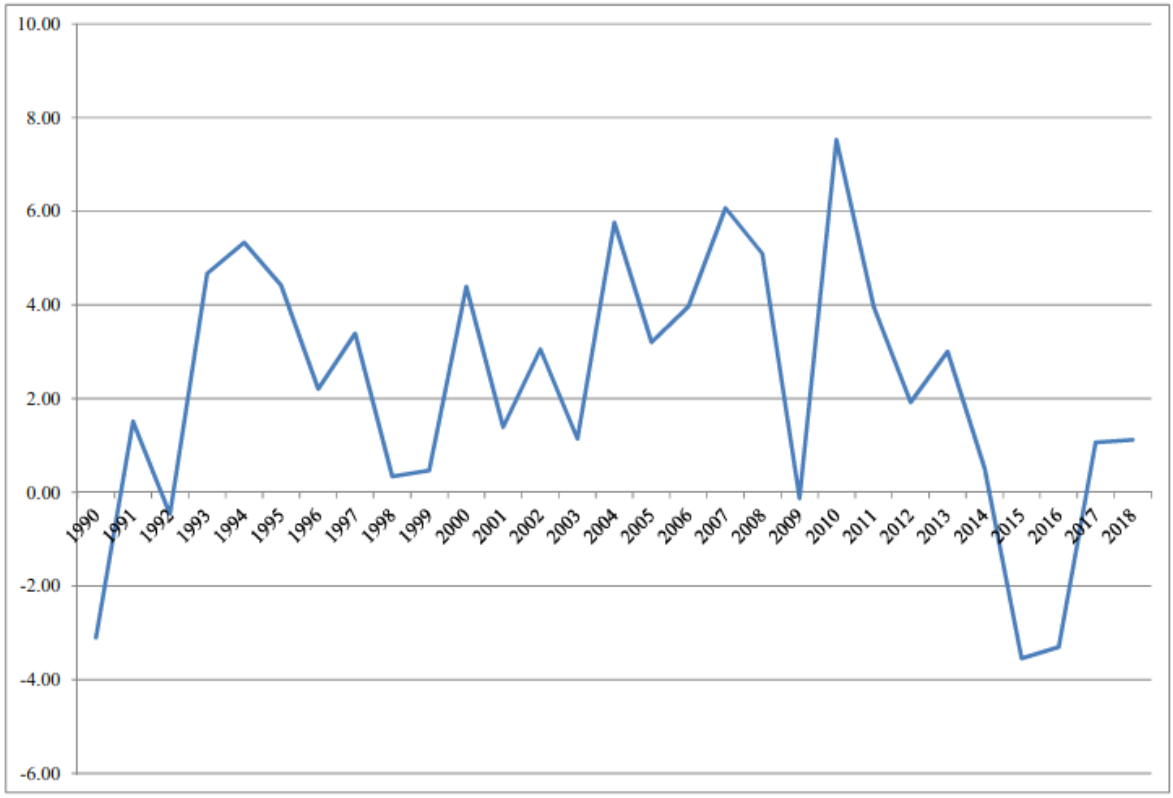
Source: Conference Board.

From the exhaustion of the model of import substitution in the 1980s[2], Brazil has been pursuing an elusive sustained growth, a search already lasting nearly four decades. Periods of economic revival were generally short-lived: in the two following decades posted an average growth of 2.6% and 3.7%, respectively, and it slowed to pitiful 0.6% in the recent period of 2011 to 2018. The end of the country's most prolonged recession, which cut 8.3% off the GDP per capita in 2015 and 2016 and raised unemployment to 13 million Brazilians, further impoverishing the population, was not followed either by a substantial rebound of the economy or by the creation of new jobs.

As shown by **Figure 2**, this recent pattern, beyond showing an underperformance relative to other developing and emerging countries, reveals higher volatility in the growth rates. The average growth rate between1990 and 2018 was at 2.24%, with a standard deviation of 2.79 and a coefficient of variation of 1.25.

Figure 2 - Brazil's GDP growth between 1990 and 2018.

[2] Brazil had continuous growth between 1943 and 1980, with an average expansion of 7.4%. It went through the "lost decade" of 1981 to 1990 with quite modest activity recovery, of 1.7% on average.



Source: World Bank Data (2019).

The last economic policy of the Workers Party Dilma Rousseff government, the so-called the 'New Economic Matrix,' led to a large systematic increase of government spending and rampant growth of gross debt in relation to GDP. Over the last six years, including 2019, the consolidated public sector posted high primary deficits, which increase its debt in relation to the GDP: gross debt, which was equal to 51.3% of GDP in 2011, jumped to 78.4% in the 12 months through March. The debt to GDP ratio in India was 75% in 2016. However, the bottleneck lies at the debt services as a share of GDP. In 2017, it was at 36.2% in comparison with 10.1% in India and 7.6% in China[3]. Debt services is a key path-dependent institution in the trajectory of the Brazilian economy due to persistent inflationary pressures and a high degree of concentration in the banking industry.

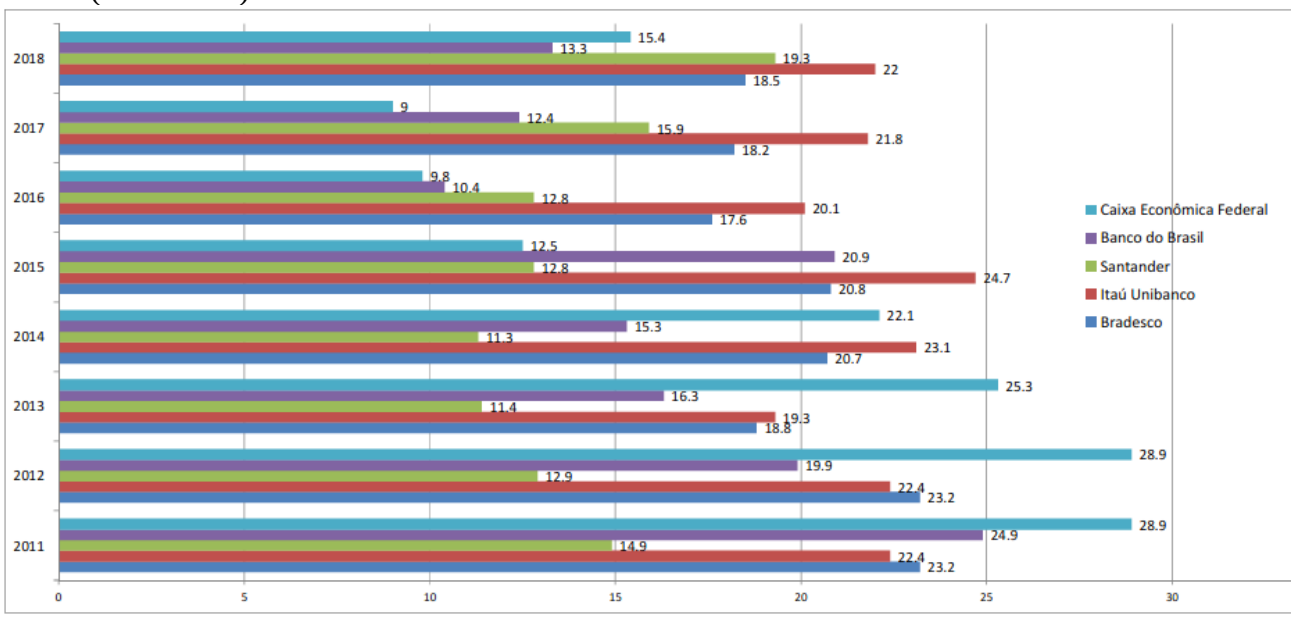
The average profit rate of banks in Brazil – private and public - is much higher than their counterparts in Europe and the United States. **Figure 3** shows a substantial fall for the *Caixa Econômica Federal* between 2011 and 2018 from 28.9% to 15.4%. However, the largest private banks did not suffer a considerable change in their profit

[3] International Debt Statistics, 2019. The World Bank.

rates in the same period. Bradesco went down from 23.2% in 2011 to 18.2% in 2018, and Itaú became virtually unchanged from 23.2% to 21.8%.

In a long term perspective, when comparing the government mandates of Cardoso, Lula, and Dilma, the average annual growth of profits in the banking industry is of 7.9% during Cardoso (1995-2002), 31.8 during Lula (2003-2010), and 38.6% during Dilma's first term (2011-2013)[4]. The banking industry was a key member of the coalition and enjoyed substantial profits during the Workers Party left-leaning governments.

Figure 3 – Profit rates before taxes (%) from the five largest private and public banks in Brazil (2011-2018)



Source: Financial Reports from 2011 to 2018 and DIEESE.

Misfit Institutions: Business Groups, Manufacturing and Education Policy

The trajectory of the Odebrecht group illustrates well the impact of the recent historical changes in the country's political economy on business strategy and the possibilities for the future of Brazilian capitalism under a regulatory state and driven by competitive, specialized business groups. In 2019, the group had the most significant bankruptcy recovery agreement ever (about $ 30bn).

Odebrecht nearly broke in 1999, with the maxi-devaluation of the dollar and was forced to sell off assets, keeping the traditional construction arm (CNO) and

[4] Calculated with the data from the Central Bank of Brazil.

petrochemical holdings. From 2002, it began to reassemble the conglomerate with the creation of the petrochemical monopolistic giant Braskem, which, with government support and Petrobras partnership, incorporated other assets in the industry. From 2005, the group entered the sectors of infrastructure, oil and gas, sugar and gas, real estate development, mobility and transport concessions, energy, defense, and naval services.
The group grew rapidly under the management of the new heirs Marcelo Odebrecht, who had great ambition. In 2013, when Odebrecht planned to achieve revenues close to R$ 100 billion - achieved in the next year – the Project 20-20 had a goal revenue of R$ 200 billion at the turn of 2020 to 2021. Operation Car Wash, launched in March 2014, to investigate contracts of contractors and other suppliers from Petrobras, overturned by land the conglomerate's plan. On June 19, 2015, Marcelo was arrested.

Since 2016, even with the sale of R$ 7.2 billion in assets in Brazil and abroad and the renegotiation of subsidiaries' debts, the group went through a deep crisis. The largest creditors of the group's R$ 80 billion of debt are public banks: *BNDES, Caixa and Banco do Brasil*. Between 2008 and 2015, Odebrecht Group's revenue jumped from an annual turnover of R$ 40 billion to R$ 132 billion. In 2015, the Odebrecht Group was the second largest in terms of revenues behind Petrobras.

Recently, business seems to show confidence in the liberal Bolsonaro government and, has adjusted to his government style. They are also optimistic about the economy next year. Next to the array of liberal-leaning reforms – from the approved Pension Reform and consolidation of the Labor Reform, the new federative pact, to the newly introduced in Congress State Administration and Fiscal Reforms to the announced 2020 Tax Reforms – projects such as the one to bring Brazil's ranking in the World Bank's Doing Business list to 50th, from its current ranking of 125, mobilize business interests which is in line with of enabling the business environment. Further, Bolsonaro's recent turnaround stance towards China during the latest BRICS Conference in Brasilia last October contributed to mobilizing the agro-export sector.

Bolsonaro's administration has a more liberal and reformist leaning than the previous ones, attracting a broad base of business trade association support from retail (Fecomercio: "This convergence of ideas greatly facilitates conversations, because it creates a positive agenda) to industry in general (National Confederation of Industry (CNI): "The government is now willing to carry out structural reforms. And these reforms are structural"... "Once again congress plays a decisive role.") to the vital machinery industry the machinery industry (Abimaq credits the creation of individual secretariats

under the umbrella of the Economy Ministry improved dialogue with the administration. "We think this administration is not the kind that we had in the past that satisfies the individual demands of companies or sectors. A liberal government has to look out for everyone."). Other measures that have pleased the manufacturing industry, in addition to reforms, are privatization and concession plans and policies to reduce natural gas prices. Another critical factor was a postponement of the Ministry of Economy plan to unilaterally open up Brazilian markets, which could have impacted the Brazilian industry.

The Industrial Business Confidence Index, which rose to 62.5 in November, compared with a historical average of 54.6 points, the second-highest ever for the index. After a period of transition by the new members of the administration, business representatives say that channels of dialogue are working well.

Manufacturing Industry: the Protectionist Curse

The manufacturing industry's trade deficit reached $31.5 billion in the 12 months through September 2019. The estimate is that this year's result will be close to that, leading to a shortfall almost nine times greater than the negative balance of $3.2 billion in 2017, according to the Industrial Development Studies Institute (IEDI). Last year, the deficit was $25.2 billion.

What stands out, though, is the expansion of the manufacturing deficit as a result of a sharper drop in exports. In the 12 months through September, the manufacturing industry exported 5.3% less than in the previous 12 months.

Meanwhile, it imported practically the same, down only 0.6%. A critical factor for the decline in exports is Argentina's economic crisis. Total Brazilian exports to the neighboring country, including manufactured and non-manufactured goods, fell to $7.5 billion in the year to September from $12.9 billion in the same period of 2017. Another is the low growth of global trade because of the US-China conflict.

The situation bears testimony to the lack of structural competitiveness of the Brazilian manufacturing industry. The deterioration of manufacturing's trade balance affects all levels of technology intensity. However, the most unusual case is in the medium-high-technology industry. This group includes the car, trailer, and semi-trailer industries, whose exports were sharply affected by the Argentine crisis. Car exports totaled $11 billion in the 12 months through September. That contributed to a $2 billion deficit in the period. In 2018, the industry's sales abroad reached $14.2 billion. The auto industry had a trade deficit of $ 752 million last year. The deficit of the medium-high

technological intensity group grew from $26.3 billion in 2017 to $43.1 billion in 2019, considering in the latter case the 12 months through September. In the high-technology group, which includes the aerospace industry, the deficit grew to $20.8 billion from $17.9 billion in the same comparison, showing a constant shrinking of the share of high technology products in total exports of the manufacturing industry. In 2000, high- and medium-high-technology industries accounted for 43.5% of the manufacturing exports, but only 31.9% in 2019, considering 12 months through September.

Industries with higher added-value products could contribute more to putting Brazil in the more dynamic, longer, and more complex global value chains, with higher capacity to lead other sectors of the economy. At the same time, the less technologically intensive sector has also been facing difficulties. The low-tech industry (includes sectors such as food, textiles, leather, and footwear), only group systematically showing positive balances, is seeing its surplus fall from $40 billion in 2017 to $35.7 billion in the 12 months through September, posting a decline both in exports and imports.

Figure 4 - Export level according to technological sophistication as a proxy to the country's participation in the Global Value Chain

Exports by level of technological sophistication

Country	Resource-based	Low-tech manufacturing	Mid-level manufacturing	Sophisticated manufacturing	Knowledge-based services
Brazil	60%	5%	15%	5%	10%
China	10%	25%	20%	30%	5%
Costa Rica	20%	5%	5%	35%	15%
India	35%	15%	10%	5%	25%
Lesotho	30%	60%	0%	5%	0%
Malaysia	30%	10%	15%	30%	5%
Russian Federation	75%	5%	10%	0%	5%
Singapore	20%	5%	15%	35%	15%
South Africa	55%	5%	25%	0%	5%

Source: UNCTAD analysis, based on Globstat.

Education: Expenditures versus Distribution

Today, Brazil disburses in public education 6% of its GDP per year, higher than the OECD average of 5.5%, and nations like Argentina (5.3% of GDP), Colombia (4.7%), Chile (4.8%), Mexico (5.3%) and the US (5.4%). The expense climbed rapidly in the last ten years. In the last three years of the Luiz Inácio Lula da Silva administration (2008 to 2010) and in the Dilma Rousseff government (20112016), federal disbursements on education rose by an impressive 91% above inflation in the period — to R$117.2 billion (at 2017 prices) from R$61.4 billion — or 7.4% a year on average, in real terms[5]. The critical question posed is, why are the educational indicators so bad?

In 2017, federal primary expenditure on higher education totaled R$75.4 billion and, on elementary education, R$34.6 billion. In contrast, the tragedy of Brazil in this area is in high school — where practically half of the adolescents are out of school — and in the overall poor quality of elementary education. The items that most contributed to the increased spending on education between 2008 and 2017 were the expenses with the Federal Institutes of Technology Education (IFET) and the University Hospitals, followed by the primary expenditure related to Fies, the federal loan student program that, in practice, transferred a National Treasury's fortune — about R$61 billion, according to most recent data — directly to accounts of shareholders from Brazil's privatesector colleges, many of them partners of US and European funds.

However, public universities cannot meet all demand for higher education, far from it. But the way the Rousseff government has structured Fies was dire, with the Treasury assuming 100% of the default risk (because of this, the Fies default rate is higher than 50%, schools are lowering minimum requirements to pick up students on the street, and the government is issuing debt to finance the program). It is undoubtedly one of the policies that have most concentrated income in the country's history. The Treasury study says. "Even in Brazil, there are success stories such as that of Ceará, which obtained in 2015 the fifth-best IDEB in the initial years of elementary school, even though spending less than the Northeast and national averages." The study points out that the best municipal IDEB in Brazil in 2015 was obtained by the city of Sobral, in Ceará, which in 2017 spent less on education than the average of the state's municipalities.

[5] In the same period, the current federal revenue increased only 6.7% in real terms (0.7% per year). As a proportion of current revenue, federal spending on education nearly doubled between 2008 and 2017, rising to 8.3% from 4.7%. As a proportion of GDP, it increased to 1.8% from 1.1%. The data were compiled by the National Treasury Secretariat and are included in a study titled "Fiscal Aspects of Education in Brazil."

The Lula and Rousseff governments decided to expand the higher education network exponentially. Also, they have expanded the number of federal technological education institutes. This is a staggering fact: In the last ten years, the number of Ministry of Education officials has jumped to 299,244 from 189,637, an increase of almost 110,000 jobs, most of them with employment stability, almost full retirement and other benefits only provided to government workers.

Moving towards complex innovation-based production structures

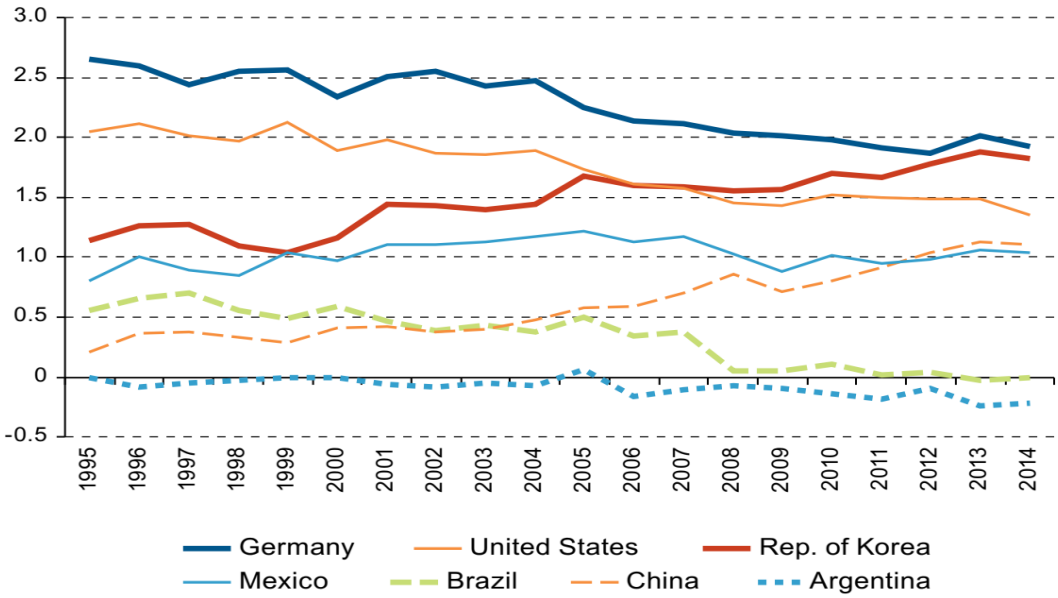
Despite the severe economic crisis beginning in 2013 and ensuing severe recession (from the second quarter of 2014 to the third quarter of 2016) and sluggish growth of only 1.1% in 2017 and also in 2018, Brazil continues to attract foreign direct investment. 2017 was a record year for venture capital investment in Latin America, and the first quarter of 2018 saw three new Latin American unicorns born. VC investments in the region surpassed $1 billion last year for the first time, spiking by 128 percent over the $500 million seen in 2016, according to recent data from the Latin American Private Equity & Venture Capital Association (LAVCA). Deal volume surged by 26 percent from 197 in 2016 to 249 in 2017. Brazil was the largest recipient of funding in 2017, with Mexico coming in second. Brazilian startups accounted for 45.4 percent of reported deals closed in 2017 with $859 million invested across 113 transactions, up 208 percent compared with $279 million raised across 64 deals the year before.

In the oil and gas industry, which contributed to about 13% of the country's GDP, Brazil will account for 10.2% of total capex into upcoming projects globally over 2018 to 2025 of $790bn, the single largest investment recipient (the ultra-deepwater fields Libra Central with $13bn, Carcara with $9bn and Lula Oeste with $6.5bn will require the highest capex over the 8-year period), followed by Russia with about 8.8%.

Figure 5 unveils structural shortcomings from the Brazilian economy. In the Index of Economic Complexity, Brazil is lagging behind Mexico and only performs better than Argentina. Moving up the value chain for innovation-production does not imply changing from a natural resources industry to manufacturing intermediary goods to electronics and machinery as in the East Asian cases. The oil and gas industry, renewable energy, agribusiness, and mining can offer down and upstream opportunities for innovation. For instance, in the value chain from agribusiness, The R&D for developing new seeds, biotechnology, artificial intelligence for farming, and fertilizers as well as

marketing and trading is almost entirely in the hands of the foreign multinationals with a lingering share of Brazilian firms. Upgrading and innovating in the natural resources industry provides a new context for the reindustrializing of Brazil (Perez, 2015).

Figure 5 - Hifalgo-Hausmann Index of Economic complexity for selected countries, 1995-2014



Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Horizons 2030: Equality at the Centre of Sustainable Development* (LC/G.2660/ Rev.1), Santiago, 2016.

Final Remarks

From a long-run perspective, it is reasonable to claim that Brazil is going experiencing possibilities of an institutional reshuffling in its capitalism with the weakening, and sometimes erosion, from ISI period institutions, Again, the liberalization comes back in the agenda with a stronger focus on economic reforms aiming at a leaner state with more efficient public finances and the improving of the business environment. In the short-term, business is supportive of these reforms because doing business becomes better with lower labor costs and the promise of lower taxes, but especially with a more rational tax system.

However, this tends to be a short-term view combined with a bit of wishful thinking. There is no evidence, so far, that this type of liberalization based on foreign savings and the underlying assumption of self-regulating markets combined with clientelist selective protectionism will assure a sustained economic growth rather than a permanent 'stop and go' cycle. Also, the business environment changing without promoting the drivers of economic growth well described by Baccaro and other colleagues falls short of what would be a growth model.

The different growth models and their respective coalitions since the 1990s have not reached sustained and significant growth rates in the average. Consumption-led, commodity-boom, and waves of FDI are not enough to meet the main challenges of moving up the value chain towards production structures from products and services with more economic complexity and added-value. As Paus (2003) remarks a change in export structure based on direct investment will not lead to overall higher productivity.

The catching-up strategy from Brazil would take a very different pathway from East Asian. As pointed out by Paus (2019), progress in biotechnology, and ICT can advance industrialization and even innovation around natural resources (Botelho, Kasahara and Simas 2017; Kasahara and Botelho 2019; Kasahara and Botelho 2016). Renewable energy and green infrastructure can also be part of this broad catching-up strategy.

Such challenges pose the need to build up upgrading coalitions to develop new institutional complementarities.

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